# Электроды из нержавеющей стали ELOX

## Технические характеристики


По вопросам продаж и поддержки обращайтесь:

Алматы (727)345-47-04
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35
Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

**Россия** +7(495)268-04-70
**Казахстан** +(727)345-47-04
**Беларусь** +(375)257-127-884
**Узбекистан** +998(71)205-18-59
**Киргизия** +996(312)96-26-47

эл.почта: gak@nt-rt.ru || сайт: https://geka.nt-rt.ru

Stainless Steel Electrode

# ELOX B 307

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 18 8 Mn B 22 |
| EN ISO 3581-A | : E 18 8 Mn B 22 |
| AWS A5.4 | : ~E 307-15 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr |
|---|---|---|---|---|
| 0.1 | 0.7 | 6.0 | 8.6 | 18.5 |

## Mechanical Properties

| **Yield Strength** ($N/mm^2$) | **Tensile Strength** ($N/mm^2$) | **Impact Strength** (ISO-V/+20°C) | **Elongation** ($L_0=5d_0$) (%) |
|---|---|---|---|
| min. 390 | 580-750 | min. 80 J | min. 35 |

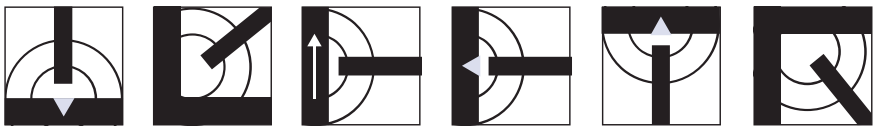
## Typical Base Material Grades

| | | | | |
|---|---|---|---|---|
| DIN: | X 6 Cr 13 | X 15 Cr 13 | AISI: | 405 |
| | X 6 Cr Al 13 | X 22 CrNi 17 | | 410 |
| | X 10 Cr 13 X | X 5 CrNi 13 4 | | 420 |
| | 8 Cr 17 | X 8 CrTi 17 | | 430 |
| | X 20 Cr 13 | G-X 20 Cr 14 | | 430 Ti |
| | X 10 Cr Al 13 | G-X 8 CrNi 13 | | 431 |
| | X 10 Cr Al 7 | G-X 30 CrSi 6 | | 440 |
| | | | | 502 |

## Features and Applications

- Highly resistant steels, alloyed / unalloyed steels, armour steels, hard manganese steels, nonmagnetic steels, steels with 14% Mn hard-to- weld steels
- Joint welding of different metals with each other
- Resistance of weld metal to corrosion, wear, thermal shocks and working temperatures between -100 °C and +500 °C

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| **Product Code** | **Diameter x Length** (mm) / (inch) | | **Welding Current** (A) | **Weight** g / 100 pcs |
|---|---|---|---|---|
| 3010100893 | 2.50 x 250 | 3/32 x 10” | 60 - 80 | 1280 |
| 3010100898 | 3.20 x 350 | 1/8 x 14” | 80 - 100 | 3170 |
| 3010102108 | 4.00 x 350 | 5/32 x 14” | 110 - 140 | 4900 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX R 307

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 18 8 Mn R 32 |
| EN ISO 3581-A | : E 18 8 Mn R 32 |
| AWS A5.4 | : ~ E 307-16 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr |
|---|---|---|---|---|
| 0.11 | 1.0 | 4.5 | 8.5 | 19.0 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%) |
|---|---|---|---|
| min. 390 | 600-770 | min. 47 J | min. 30 |

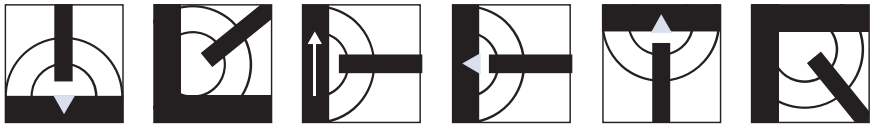
## Typical Base Material Grades

| | | | | |
|---|---|---|---|---|
| DIN: | X 7 Cr 13 | X 15 Cr 13 | AISI: | 405 |
| | X 7 Cr Al 13 | X 22 CrNi 17 | | 410 |
| | X 10 Cr 13 | X 5 CrNi 134 | | 420 |
| | X 8 Cr 17 | X 8 CrTi 17 | | 430 |
| | X 20 Cr 13 | G-X 20 Cr 14 | | 430 Ti |
| | X 10 Cr Al 7 | G-X 8 CrNi 13 | | 431 |
| | X 10 Cr A 13 | G-X 30 CrSi 6 | | 440 |
| | | | | 502 |

## Features and Applications

- High resistant steels, alloyed / unalloyed steels, heat-resistant steels, Cr-stainless steels, steels including 14%Mn, hard-to-weld steels
- Joint welding and filler welding of difference metal with each other
- Electrode coating of rutile character
- Austenitic weld metal with resistance to thermal shocks
- Maintenance of toughness at temperatures down to -100°C
- Requirement of re-drying for min. 2 hours at the temperatures between 120°C and 200°C

## Welding Positions



## Current Type

D.C.(+) / A.C.

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010100908 | 2.50 x 250 | 3/32 x 10” | 60 - 80 | 1350 |
| 3010100913 | 3.20 x 350 | 1/8 x 14” | 80 - 110 | 3320 |
| 3010100918 | 4.00 x 350 | 5/32 x 14” | 110 - 140 | 4810 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX B 307 L

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 18 9 MnMo B 22 |
| EN ISO 3581-A | : E 18 9 MnMo B 22 |
| AWS A5.4 | : E 307-15 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Mo | Cr |
|---|---|---|---|---|---|
| 0.08 | 0.6 | 4.0 | 9.5 | 1.0 | 19.0 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%) |
|---|---|---|---|
| min. 390 | 590-740 | min. 78 J | min. 35 |

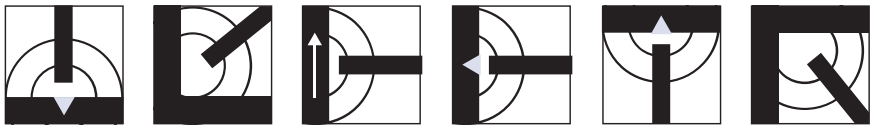
## Typical Base Material Grades

| | | | |
|---|---|---|---|
| DIN: | X 20 Cr 13 | AISI: 403 | 440 |
| | X 8 Cr 17 | 405 | 501 |
| | X 22 CrNi 17 | 410 | 502 |
| | X 5 CrNi 17 | 420 | |
| | G-X 20 Cr 14 | 430 | |

## Features and Applications

- Especially developed for the welding of armor steel
- Therefore this product using for hot work tool steels
- The welding of steels that are difficult to resource availability
- Stainless - Chromium, Chromium - Nickel steels and high strength steels welding

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010100928 | 3.20 x 350 | 3/32 X 10” | 60 - 80 | 3130 |
| 3010100933 | 4.00 x 350 | 1/8 X 14” | 80 - 110 | 4800 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX RS 307

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E Z 18 9 MnMo R 53 |
| EN ISO 3581-A | : E Z 18 9 MnMo R 53 |
| AWS A5.4 | : ~E307-26 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Mo | Cr |
|---|---|---|---|---|---|
| 0.07 | 0.9 | 5.6 | 8.5 | 0.75 | 19.0 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%) |
|---|---|---|---|
| min. 400 | 590-700 | min. 47 J | min. 35 |

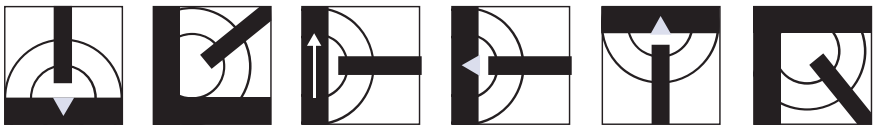
## Typical Base Material Grades

| | | | | |
|---|---|---|---|---|
| DIN: | X 6 Cr 13 | X 15 Cr 13 | AISI: | 405 |
| | X 6 Cr Al 13 | X 22 CrNi 17 | | 410 |
| | X 10 Cr 13 | X 5 CrNi 13 4 | | 420 |
| | X 8 Cr 17 | X 8 CrTi 17 | | 430 |
| | X 20 Cr 13 | G-X 20 Cr 14 | | 430Ti |
| | X 10 Cr Al 7 | G-X 8 CrNi 13 | | 431 |
| | X 10 Cr A 13 | G-X 30 CrSi 6 | | 440 |
| | | | | 502 |

## Features and Applications

- Welding of high resistant alloyed / unalloyed steels, heat-resistant steels / stainless steels, steels with 14% Mn, for welding problematic steels
- Joint and filler welding of different metals
- Rutile coated electrode, weld metal is austenitic, resistant to thermal shocks, keeps its toughness down to -100°C
- Requirement of re-drying for min. 2 hours at the temperatures between 120°C and 200°C

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010100943 | 3.20 x 350 | 1/8 x 14” | 110 - 150 | 4900 |
| 3010100948 | 4.00 x 350 | 5/32 x 14” | 140 - 180 | 7830 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX R 308 L

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 19 9 L R 32 |
| EN ISO 3581-A | : E 19 9 L R 32 |
| AWS A5.4 | : E 308 L- 16 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr |
|---|---|---|---|---|
| 0.03 | 0.8 | 0.9 | 10.5 | 20.0 |

## Mechanical Properties

| **Yield Strength** ($N/mm^2$) | **Tensile Strength** ($N/mm^2$) | **Impact Strength** (ISO-V/+20°C) | **Elongation** ($L_0=5d_0$) (%) |
|---|---|---|---|
| min. 355 | 520 - 660 | min. 47 J | min. 35 |

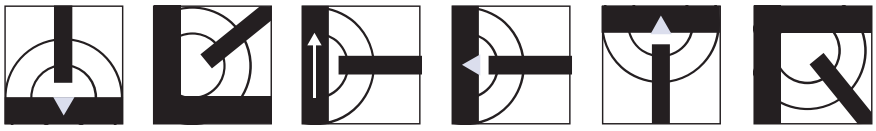
## Typical Base Material Grades

- X2CrNi 19 11, X5CrNi 18 10, X6CrNiTi 18 10, X6CrNib 18 10, X2CrNiN 18 10, X10CrNiNb 18 10, X12CrNi 18 8, 304 L, 304, 304 LN, 321, 347, 302

## Features and Applications

- Rutile-coated low-carbon electrode for use in chemical, petrochemical and food industries where similar steel types, including higher carbon grades as well as ferritic 13% -Cr steels are welded. Resistant to corrosion and cracks. Working temparatures up to +350°C
- Requirement of Re-drying for min. 2 hours at the temperatures between 120°C and 200°C

## Welding Positions



## Current Type

D.C.(+) / A.C

## Operating Data

| **Product Code** | **Diameter x Length** (mm) / (inch) | | **Welding Current** (A) | **Weight** g / 100 pcs |
|---|---|---|---|---|
| 3010100963 | 2.50 x 250 | 3/32 x 10” | 50 - 90 | 1500 |
| 3010100968 | 3.20 x 300 | 1/8 x 12” | 80 - 120 | 2930 |
| 3010100973 | 3.20 x 350 | 1/8 x 14” | 80 - 120 | 3510 |
| 3010100978 | 4.00 x 350 | 5/32 x 14“ | 110 -160 | 5100 |

**Approvals:** TSE, CE, BV, ABS, SEPRO

Stainless Steel Electrode

# ELOX R 308 L-17

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 19 9 L R 32 |
| EN ISO 3581-A | : E 19 9 L R 32 |
| AWS A5.4 | : E 308 L- 17 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr |
|---|---|---|---|---|
| 0.03 | 0.8 | 0.9 | 10.5 | 20.0 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 355 | 520 - 660 | min. 47 J | min. 35 |

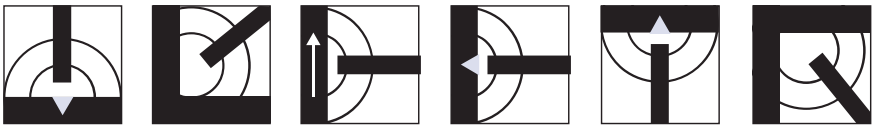
## Typical Base Material Grades

- X2CrNi 19 11, X5CrNi 18 10, X6CrNiTi 18 10, X6CrNiNb 18 10, X6CrNiNb 18 10, X10CrNiNb 18 10, X12CrNi 18 8, 304 L, 304, 304 LN, 321, 347, 302

## Features and Applications

- Rutile-coated low-carbon electrode for use in chemical, petrochemical and food industries where similar steel types, including higher carbon grades as well as ferritic 13% - Cr steels are welded.
- Resistant to corrosion and cracks.
- Working temperatures up to +350°C
- Requirement of Re-drying for min. 2 hours at the temperatures between 120°C and 200°C

## Welding Positions



## Current Type

D.C.(+) / A.C

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010100993 | 2.50 x 250 | 3/32 x 10” | 50 - 90 | 1510 |
| 3010100998 | 3.20 x 350 | 1/8 x 14” | 80 - 120 | 3510 |
| 3010101003 | 4.00 x 350 | 5/32 x 14” | 110-160 | 4930 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX R 308 H

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 19 9 H R 32 |
| EN ISO 3581-A | : E 19 9 H R 32 |
| AWS A5.4 | : E 308 H- 16 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr |
|---|---|---|---|---|
| 0.07 | 0.7 | 0.8 | 10.4 | 19.0 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%) |
|---|---|---|---|
| min. 355 | 550 - 650 | min. 47 J | min. 35 |

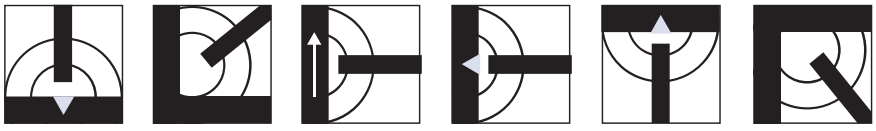
## Typical Base Material Grades

- DIN; X5CrNi18 -10, X6CrNiTi18-10, X6CrNiNb18-10, X8CrNiTi18-10, X7CrNi18-9
- AISI; 304, 304H, 321, 321H, 347, 347H

## Features and Applications

- Electrode with rutile coating on alloyed core-wire
- Applicability in welding Cr-Ni alloyed austenitic high - temperatures steel
- Usability in welding at all positions except for vertical downward position
- Applicability in joint-welding and surfacing of heat-resisting similar-type steels and steel casting
- Serviceability at temperatures of values up to 700°C
- Resistance to fractureand corrosion
- Creep resistance at high temperatures being higher than that of the electrode GeKa ELOX R 308 L

## Welding Positions



## Current Type

D.C.(+) / A.C

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101008 | 2.50 x 250 | 3/32 x 10” | 50 - 80 | 1490 |
| 3010101013 | 3.20 x 350 | 1/8 x 14” | 80 - 110 | 3430 |
| 3010101018 | 4.00 x 350 | 5/32 x 14” | 110-140 | 5060 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX B 308 L

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 19 9 L B 22 |
| EN ISO 3581-A | : E 19 9 L B 22 |
| AWS A5.4 | : E 308 L-15 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr |
|---|---|---|---|---|
| 0.02 | 0.45 | 1.2 | 10.3 | 19.7 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 370 | 520 - 660 | 90 J | min. 40 |

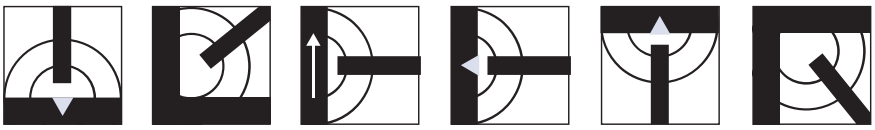
## Typical Base Material Grades

- X2CrNi 19 11, X5CrNi 18 10, X6CrNiTi 18 10, X6CrNiNb 18 10, X 10 CrNiNb 18 10, X2CrNiN 18 10, X12CrNi 18 8, 304L, 304, 304 LN, 321, 347, 302, 320 B 8 C & D

## Features and Applications

- Low carbon alloyed core wire austenitic electrode with basic coating far use in all industries where similar steel types,including higher carbon grades as well as ferritic 13% -Cr steels are welded.
- High ductility of the weld metal,therefore preferably used for welding heavy sections.
- Very good out-of-position weldability.
- Good low-temperature ductility down to -196°C.
- Resistant to intergranular corrosion up to 350°C.
- Weld metal does not require preheating or postweld heat treatement.

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101023 | 2.50 x 250 | 3/32 x 10” | 50-80 | 1510 |
| 3010101028 | 3.20 x 350 | 1/8 x 14” | 80-110 | 3330 |
| 3010101033 | 4.00 x 350 | 5/32 x 14” | 110-140 | 4760 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX B 308 H

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 19 9 H B 22 |
| EN ISO 3581-A | : E 19 9 H B 22 |
| AWS A5.4 | : E 308 H-15 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr |
|---|---|---|---|---|
| 0.05 | 0.6 | 1.4 | 10.5 | 19.0 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 350 | min. 550 | min. 47 J | min. 30 |

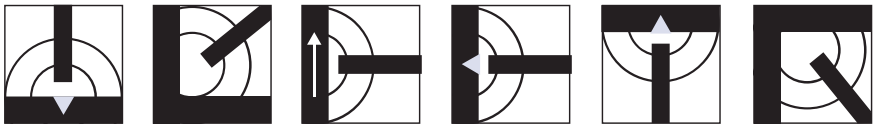
## Typical Base Material Grades

- 301,302,304, 304H, 305,321

## Features and Applications

- A basic coating electrodes are used for welding type 304H and similar applications where creep strength is required
- Electrodes are the same as E308, except for carbon content that has been restricted in the range of 0.04 to 0.08
- It provides higher tensile and creep strength has at elevated temperatures
- Weld metal ferrite content is normally targeted for 5 FN to minimize effect of sigma embrittlement in high temperature service

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101598 | 2.50 x 250 | 3/32 x 10” | 60 - 90 | 1500 |
| 3010101603 | 3.20 x 350 | 1/8 x 14” | 100 - 130 | 3300 |
| 3010101608 | 4.00 x 350 | 5/32 x 14” | 100 - 160 | 4750 |

**Approvals:** CE, SEPRO

Stainless Steel Electrode

# ELOX R 308L Mo

## Standards

| | |
|---|---|
| TS EN ISO 3581-B | : ES308LMo-16 |
| EN ISO 3581-B | : ES308LMo-16 |
| AWS A5.4 | : E308LMo-16 |

## Chemical Composition of Weld Metal % (Typical)

| C | Mo | Ni | Cr |
|---|---|---|---|
| 0.03 | 2.5 | 9.5 | 18.0 |

## Mechanical Properties

| **Yield Strength** ($N/mm^2$) | **Tensile Strength** ($N/mm^2$) | **Impact Strength** (ISO-V/+20°C) | **Elongation** ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 450 | 540 - 700 | min. 47 J | min. 35 |

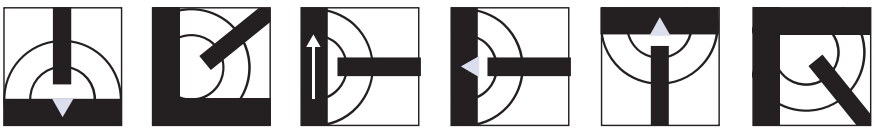
## Typical Base Material Grades

- ASTM A351-Gr. CF3M steel casting.

## Features and Applications

- A rutile electrode for welding of dissimilar steels
- The general purpose electrode for repair welding
- It has easy slag removal and smooth appearance in filled welding

## Welding Positions



## Current Type

D.C.(+) / A.C.

## Operating Data

| **Product Code** | **Diameter x Length** (mm) / (inch) | | **Welding Current** (A) | **Weight** g / 100 pcs |
|---|---|---|---|---|
| 3010100988 | 3.20 x 350 | 1/8 x 14” | 80 - 120 | 3510 |

**Approvals:** CE, SEPRO

Stainless Steel Electrode

# ELOX RS 308

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 19 9 R 53 |
| EN ISO 3581-A | : E 19 9 R 53 |
| AWS A5.4 | : E308-26 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr |
|---|---|---|---|---|
| 0.07 | 0.8 | 1.0 | 9.0 | 18.0 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%) |
|---|---|---|---|
| min. 410 | 570 - 710 | min. 55 J | min. 30 |

## Typical Base Material Grades

- X2CrNi 1911, X5CrNi 1911, X5CrNi 18 8, X12CrNi 17 7, X12CrNi 18 8,G-X10CrNi 18 8, G-X12CrNi 18 8,
  AISI: 304 L, 304, 302, 301, 308

## Features and Applications

- Applicability in joint- and surface-welding operations of 18/8 Cr-Ni steels, high-strength tempered steels, stainless steels and carbon steels
- Welding efficiency of approximately 150%
- Resistance to high current
- Requirement of re-drying for min. 2 hours at the temperatures between 120°C and 200°C

## Welding Positions

## Current Type

D.C.(+) / A.C.

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101038 | 2.50 x 350 | 3/32 x 14” | 80 - 120 | 2820 |
| 3010101043 | 3.20 x 350 | 1/8 x 14” | 110 - 160 | 5700 |
| 3010101048 | 4.00 x 350 | 5/32 x 14” | 150 - 190 | 7680 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX R 309 L

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 23 12 L R 32 |
| EN ISO 3581-A | : E 23 12 L R 32 |
| AWS A5.4 | : E309L-16 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr |
|---|---|---|---|---|
| 0.03 | 0.8 | 0.8 | 12.6 | 23.0 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 440 | 540 - 720 | min.47 J | min. 30 |

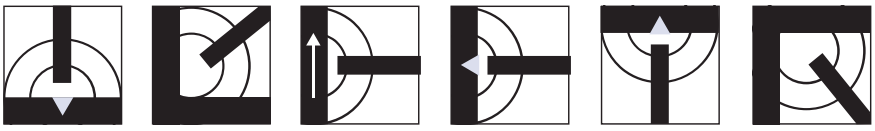
## Typical Base Material Grades

- High-strength unalloyed and heat-treatable steels, ferritic Cr and austenitic CrNi steels, austenitic Mn steels.
- Unalloyed tempered steels, tool steels, hard manganese steels, ferritic chromium steels, austenitic nickel chromium steels, hard-to- weld steels.

## Features and Applications

- Similar-type austenitic stainless steels, dissimilar metals, buffer layers on mild and low-alloy steels prior to build up or overlaying with any stainless electrodes, joining of corrosion resistant stainless steel with mild or low alloy steels, clad steels
- Good crack resistance with hard to weld steels
- The weld metal is content to high ferrite %
- Requirement of re-drying for min. 2 hours at the temperatures between 120°C and 200°C

## Welding Positions



## Current Type

D.C.(+) / A.C.

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101058 | 2.00 x 250 | 5/64 x 10” | 50-85 | 950 |
| 3010101063 | 2.50 x 250 | 3/32 x 10” | 60-90 | 1570 |
| 3010101073 | 3.20 x 350 | 1/8 x 14” | 80-120 | 3610 |
| 3010101078 | 4.00 x 350 | 5/32 x 14” | 100-160 | 5050 |

**Approvals:** TSE, CE, BV, ABS, SEPRO, RCB, DNV-GL

Stainless Steel Electrode

# ELOX R 309 H

## Standards

| | |
|---|---|
| TS EN ISO 3581-B | : ES309-16 |
| EN ISO 3581-B | : ES309-16 |
| AWS A5.4 | : E 309 H-16 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr |
|---|---|---|---|---|
| 0.06 | 0.8 | 0.8 | 12.0 | 23.0 |

## Mechanical Properties

| **Yield Strength** ($N/mm^2$) | **Tensile Strength** ($N/mm^2$) | **Impact Strength** (ISO-V/+20°C) | **Elongation** ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 440 | 550 - 720 | min.47 J | min. 30 |

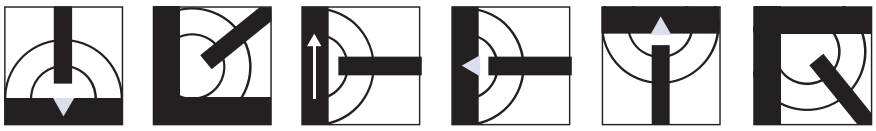
## Typical Base Material Grades

- Alloyed and unalloyed steels, AISI 309 Type Steel, Tool Steels, Austenitic Cr-Ni and Mn steels

## Features and Applications

- Electrode with rutile coating on alloyed core-wire
- Applicability in welding similar/dissimilartype austenitic stainless steels, high-strength unalloyed and heat treatable steels, ferritic Cr and austenitic CrNi steels, austenitic Mn steels
- It provides higher tensile and creep strength at elevated temperatures according to ELOX R 309 L
- Usability in welding at all positions except for vertical downward position

## Welding Positions



## Current Type

D.C.(+) / A.C.

## Operating Data

| **Product Code** | **Diameter x Length** (mm) / (inch) | | **Welding Current** (A) | **Weight** g / 100 pcs |
|---|---|---|---|---|
| 3010102197 | 2.50 x 250 | 3/32 x 10” | 50-85 | 1550 |
| 3010102198 | 3.20 x 350 | 1/8 x 14” | 80-120 | 3600 |

**Approvals:** SEPRO

Stainless Steel Electrode

# ELOX R 309 L-17

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 23 12 L R 32 |
| EN ISO 3581-A | : E 23 12 L R 32 |
| AWS A5.4 | : E309L-17 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr |
|---|---|---|---|---|
| 0.03 | 0.8 | 0.8 | 12.6 | 23.0 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 440 | 540 - 720 | min.47 J | min. 30 |

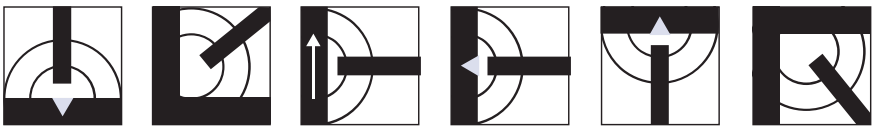
## Typical Base Material Grades

- High-strength unalloyed and heat-treatable steels, ferritic Cr and austenitic CrNi steels, austenitic Mn steels
- Unalloyed tempered steels, tool steels, hard manganese steels, hard-to-weld steels

## Features and Applications

- Rutile-coated low-carbon electrode for use in high-strength unalloyed and heat treatable steels, ferritic Cr and austenitic CrNi steels, austenitic Mn steels
- Similar-type austenitic stainless steels, dissimilar metals, buffer layers on mild and low-alloyed steels prior to build up or overlaying with any stainless electrodes, joining of corrosion resistant stainless steel with mild or low alloy steels, clad steels
- Good crack resistance wity hard-to-weld steels
- The weld metal is content to high ferrite %
- Requirement of re-drying for minimum 2 hours at the temperatures between 120°C and 200°C

## Welding Positions



## Current Type

D.C.(+) / A.C.

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101083 | 2.50 x 250 | 3/32 x 10” | 60-90 | 1550 |
| 3010101088 | 3.20 x 350 | 1/8 x 14” | 80-120 | 3640 |
| 3010101093 | 4.00 x 350 | 5/32 x 14” | 100-160 | 5320 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX R 309 MoL

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 23 12 2 L R 32 |
| EN ISO 3581-A | : E 23 12 2 L R 32 |
| AWS A5.4 | : E 309LMo-16 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Ni | Cr |
|---|---|---|---|---|---|
| <0.03 | 0.7 | 0.8 | 2.8 | 13.0 | 23.0 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| 530 | 700 | min.55 J | 35 |

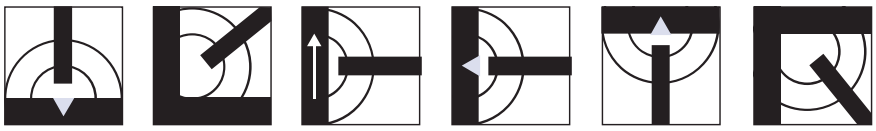
## Typical Base Material Grades

- High strength unalloyed and alloyed steels, heat resistant steels, ferritic and austenitic steels

## Features and Applications

- Welding of higher strength unalloyed and alloyed steels
- Welding of heat resistant steels
- Welding of high temperature pressure vessels, similar type of ferritic and austenitic steels
- Welding of corrosion and heat resistant steels, build-up or overlaying, buffer layers applications
- Weld metal contains higher amount of ferrite and has higher resistance to cracking
- Requirement of Re-drying for min. 2 hours at the temperatures between 120°C and 200°C

## Welding Positions



## Current Type

D.C.(+) / A.C.

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101098 | 2.50 x 250 | 3/32 x 10” | 60-90 | 1570 |
| 3010101103 | 3.20 x 350 | 1/8 x 14” | 80-120 | 3640 |
| 3010101108 | 4.00 x 350 | 5/32 x 14” | 100-160 | 5050 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX R 309 MoL-17

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 23 12 2 L R 32 |
| EN ISO 3581-A | : E 23 12 2 L R 32 |
| AWS A5.4 | : E 309LMo-17 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Ni | Cr |
|---|---|---|---|---|---|
| <0.03 | 0.7 | 0.8 | 2.8 | 13.0 | 23.0 |

## Mechanical Properties

| **Yield Strength** ($N/mm^2$) | **Tensile Strength** ($N/mm^2$) | **Impact Strength** (ISO-V/+20°C) | **Elongation** ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 490 | 620-750 | min.47 J | min. 30 |

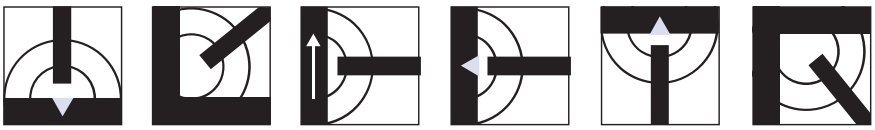
## Typical Base Material Grades

- Uses in high strength unalloyed and heat-treatable steels, ferritic / austenitic steels, austenitic Mn steels.

## Features and Applications

- Similar type austenitic stainless steels, dissimilar metals, buffer layers on mild and low-alloy steels prior to build up or overlaying with any stainless steels electrode
- Joining of corrosion-resistant stainless steel with mild or low- alloy steels, clad steels
- The weld metal is content to high ferrite %
- Good cracking resistance with problematic steels
- Requirement of Re-drying for min. 2 hours at the temperatures between 120°C and 200°C

## Welding Positions



## Current Type

D.C.(+) / A.C.

## Operating Data

| **Product Code** | **Diameter x Length** (mm) / (inch) | | **Welding Current** (A) | **Weight** g / 100 pcs |
|---|---|---|---|---|
| 3010101113 | 2.50 x 250 | 3/32 x 10” | 60-90 | 1570 |
| 3010101118 | 3.20 x 350 | 1/8 x 14” | 80-120 | 3640 |
| 3010101123 | 4.00 x 350 | 5/32 x 14” | 100-160 | 5050 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX B 309

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 22 12 B 22 |
| EN ISO 3581-A | : E 22 12 B 22 |
| AWS A5.4 | : E 309 -15 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr |
|---|---|---|---|---|
| 0.085 | 0.9 | 1.8 | 12.5 | 22.5 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 360 | 550-650 | min.47 J | min.25 |

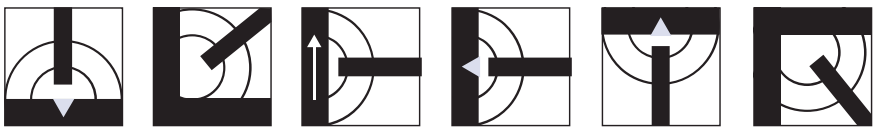
## Typical Base Material Grades

- X15CrNiSi20 12, X10CrAl7, X10CrAl13, X10CrAl18, G-X40CrNiSi22, 9G-X40CrSi17, G-X30CrSi6, AISI 305, ASTM; A297HF

## Features and Applications

- Basic-coated alloyed core wire electrode for welding analogous, heat resistant rolled, forged and cast steels as well as heat resistant ferritic CrSiAl steels
- For weld joints exposed to reducing, sulphurous gases, the final layer has to be deposited by means of this electrode
- In annealing plants, hardening plants, steam boiler construction, the crude oil industry and the ceramics industry
- Scaling resistant up to 1000°C

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101128 | 2.50 x 250 | 3/32 x 10” | 60 - 80 | 1500 |
| 3010101133 | 3.20 x 350 | 1/8 x 14” | 80 - 110 | 3250 |
| 3010101138 | 4.00 x 350 | 5/32 x 14” | 110-140 | 4730 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX R 310

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 25 20 R 32 |
| EN ISO 3581-A | : E 25 20 R 32 |
| AWS A5.4 | : ~E 310-16 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr |
|---|---|---|---|---|
| 0.12 | 0.9 | 2.5 | 20 | 26.0 |

## Mechanical Properties

| **Yield Strength** ($N/mm^2$) | **Tensile Strength** ($N/mm^2$) | **Impact Strength** (ISO-V/+20°C) | **Elongation** ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 355 | 560-690 | min.47 J | min. 25 |

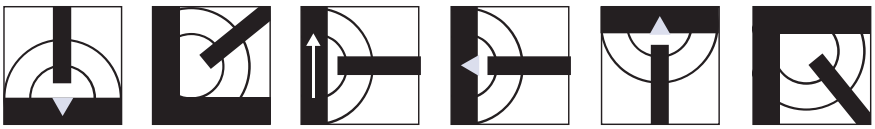
## Typical Base Material Grades

- Furnace, boilers, pipes made of Cr-Ni and Cr-Si-Al-alloyed steels.
- X15CrNiSi 25-20, X15CrNiSi 25-21, X15CrNrSi 20-12, G-X40CrNi25, GX40CrNiSi229, X10CrAl, X10CrAl24, GX40CrSi1, AISI 305, 310, 304

## Features and Applications

- Weld metal is resistant to working temperatures up to +1200°C
- Used with alternative current also
- Requirement of Re-drying for min. 2 hours at the temperatures between 120°C and 200°C

## Welding Positions



## Current Type

D.C.(+) / A.C.

## Operating Data

| **Product Code** | **Diameter x Length** (mm) / (inch) | | **Welding Current** (A) | **Weight** g / 100 pcs |
|---|---|---|---|---|
| 3010101158 | 2.50 x 250 | 3/32 x 10” | 50 - 80 | 1410 |
| 3010101163 | 3.20 x 300 | 1/8 x 1 2” | 80 - 110 | 2930 |
| 3010101168 | 3.20 x 350 | 1/8 x 14” | 80 - 110 | 3460 |
| 3010101173 | 4.00 x 350 | 5/32 x 14” | 110 - 140 | 5300 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX R 310 Mo

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : ES 310 Mo-16 |
| EN ISO 3581-A | : ES 310 Mo-16 |
| AWS A5.4 | : E 310 Mo-16 |

## Chemical Composition of Weld Metal % (Typical)

| C | Cr | Ni | Mo |
|---|---|---|---|
| 0.08 | 25.0 | 21.0 | 2.8 |

## Mechanical Properties

| **Tensile Strength** ($N/mm^2$) | **Elongation** ($L_0=5d_0$) (%)) |
|---|---|
| min. 550 | min. 30 |

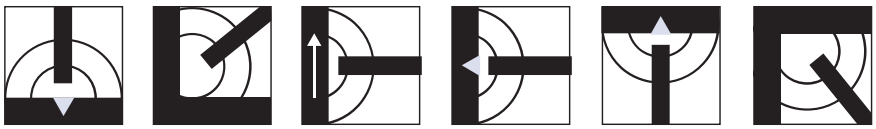
## Typical Base Material Grades

- For austenitic steels, Cr-Mo Steels, coated stainless steels and type AISI 316, 316L and 317 clad steels.

## Features and Applications

- Rutile-basic coated electrode
- The addition of Mo is improved high temperature creep properties
- The weld deposit is full austenitic and corrosion resistant

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| **Product Code** | **Diameter x Length** (mm) / (inch) | | **Welding Current** (A) | **Weight** g / 100 pcs |
|---|---|---|---|---|
| 3010101178 | 3.20 x 350 | 1/8 x 14” | 80 - 110 | 3510 |
| 3010101183 | 4.00 x 350 | 5/32 x 14” | 110 -140 | 5140 |

**Approvals:** SEPRO

Stainless Steel Electrode

# ELOX B 310

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 25 20 B 22 |
| EN ISO 3581-A | : E 25 20 B 22 |
| AWS A5.4 | : ~E 310-15 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr |
|---|---|---|---|---|
| 0.12 | 0.9 | 3.0 | 20.5 | 25.0 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 355 | 560-690 | 100 J | min. 25 |

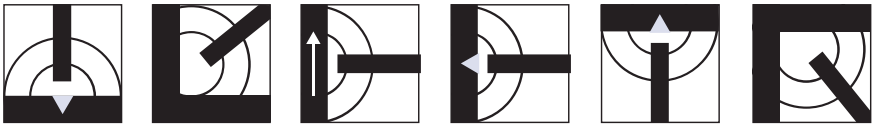
## Typical Base Material Grades

- X15CrNiSi 25 20, X12CrNi 25 21, X15CrNiSi 20 12, G-X 15CrNi 25 20, G-X 40CrNi 25 21, G-X40CrNiSi22 9, X10CrAl 18, X10CrAl 24, G-X40CrSi 17, AISI 305, 310, 314.

## Features and Applications

- Austenitic CrNi steels, ferritic CrNiAl alloyed steels, heat-resisting rolled, forged and cast steels used in ceramic, petrochemical industries and furnace, boilers, chimney applications
- Weld metal is resistant to working temperature - 196°C up to +1200°C

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101188 | 2.50 x 250 | 3/32 x 10” | 50 - 80 | 1440 |
| 3010101193 | 3.20 x 300 | 1/8 x 1 2” | 80 - 110 | 2710 |
| 3010101198 | 3.20 x 350 | 1/8 x 14” | 80 - 110 | 3120 |
| 3010101203 | 4.00 x 350 | 5/32 x 14” | 110 - 140 | 4750 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX R 312

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 29 9 R 12 |
| EN ISO 3581-A | : E 29 9 R 12 |
| AWS A5.4 | : ~E 312-16 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr |
|---|---|---|---|---|
| 0.12 | 1.0 | 0.8 | 10.5 | 30.0 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 490 | 700-830 | min. 24 J | min. 20 |

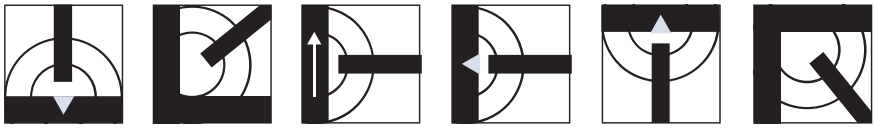
## Typical Base Material Grades

| | | | | |
|---|---|---|---|---|
| DIN: | X7Cr13 | G-X7Cr13 | AISI: | 403 |
| | X7CrAl13 | G-X20Cr14 | | 405 |
| | X10CrAl13 | G-X10CrMo13 | | 410 |
| | X8Cr17 | G-X8CrNi13 | | 420 |
| | X20Cr13 | | | 430 |
| | X15Cr13 | | | 430Ti |
| | X22CrNi 17 | | | 431 |
| | X15CrNi13 4 | | | 446 |
| | X8CrTi17 | | | |

## Features and Applications

- Alloyed-unalloyed high-resistant steels, Cr and Mn steels, joint welding of tool steels and different steels and repair welding of sprockets and wheelshaft
- Weld metal is resistant to corrosions, cracks and rust
- Requirement of re-drying for min. 2 hours at the temperatures between 120°C and 200°C

## Welding Positions



## Current Type

D.C.(+) / A.C.

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101208 | 2.50 x 250 | 3/32 x 10” | 50 - 80 | 1260 |
| 3010101213 | 3.20 x 300 | 1/8 x 1 2” | 80 - 110 | 2470 |
| 3010101218 | 3.20 x 350 | 1/8 x 14” | 80 - 110 | 2890 |
| 3010101223 | 4.00 x 350 | 5/32 x 14” | 110 - 160 | 4470 |

**Approvals:** TSE, CE, ABS, BV, SEPRO

Stainless Steel Electrode

# ELOX R 316 L

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 19 12 3 L R 32 |
| EN ISO 3581-A | : E 19 12 3 L R 32 |
| AWS A5.4 | : E316L-16 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Ni | Cr |
|---|---|---|---|---|---|
| 0.03 | 0.8 | 0.9 | 2.6 | 11.5 | 19.0 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 355 | 540-670 | min. 47 J | min. 30 |

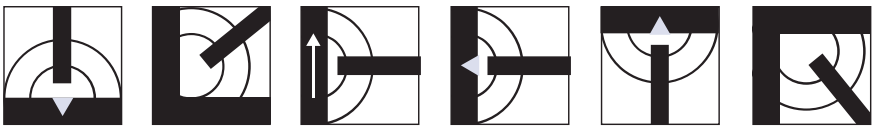
## Typical Base Material Grades

- EN: X10CrNiMoNb 18 12, X2CrNiMo 18 14 3, X5CrNiMo 17 13 3, X2CrNiMo 17 13 2, X2CrNiMoN 17 12 2, X5CrNiMo 17 12 2, X5CrNiMoTi 17 12 2, X6CrNiMoNb 17 12 2, X2CrNiMoN 17 13 3.
- AISI: 316Cb, 316, 316L, 316Ti

## Features and Applications

- Tanks, pipes and equipments made of Cr-Ni-Mo low-carbon steels which are used in food, textile, chemical and paint industries
- Weld metal is resistant to acid, corrosion
- Serviceability at temperatures up to 400°C
- Requirement of Re-drying for min. 2 hours at the temperatures between 120°C and 200°C

## Welding Positions



## Current Type

D.C.(+) / A.C.

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101243 | 2.00 x 250 | 5/64 x 10” | 40-70 | 950 |
| 3010101248 | 2.50 x 250 | 3/32 x 10” | 50-90 | 1500 |
| 3010101258 | 3.20 x 350 | 1/8 x 14” | 80-120 | 3480 |
| 3010101263 | 4.00 x 350 | 5/32 x 14” | 110-160 | 5130 |

**Approvals:** TSE, BV, CE, ABS, SEPRO, DNV-GL

Stainless Steel Electrode

# ELOX R 316L-17

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 19 12 3 L R 32 |
| EN ISO 3581-A | : E 19 12 3 L R 32 |
| AWS A5.4 | : E316L-17 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Ni | Cr |
|---|---|---|---|---|---|
| 0.03 | 0.8 | 0.9 | 2.6 | 11.5 | 19.0 |

## Mechanical Properties

| **Yield Strength** ($N/mm^2$) | **Tensile Strength** ($N/mm^2$) | **Impact Strength** (ISO-V/+20°C) | **Elongation** ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 355 | 540-670 | min. 47 J | min. 30 |

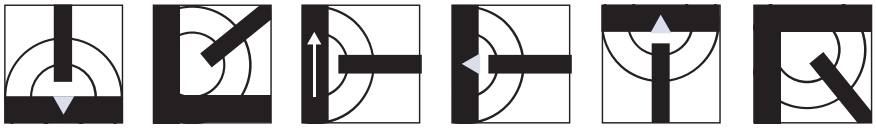
## Typical Base Material Grades

- EN: X10CrNiMoNb 18 12, X2CrNiMo 18 14 3, X5CrNiMo 17 13 3, X2CrNiMo 17 13 2, X2CrNiMoN 17 12 2, X5CrNiMo 17 12 2, X5CrNiMoTi 17 12 2, X6CrNiMoNb 17 12 2, X2CrNiMoN 17 13 3.
- AISI: 316Cb, 316, 316L, 316Ti

## Features and Applications

- Rutile-coated low-carbon electrode for use in tanks, pipes and equipments made of Cr-Ni-Mo low-carbon steels which are used in food, textile, chemical and paint industries
- Weld metal is resistant resistant to acid, corrosion
- Serviceability at temperatures up to 400°C
- Requirement of Re-drying for min. 2 hours at the temperatures between 120°C and 200°C

## Welding Positions



## Current Type

D.C.(+) / A.C.

## Operating Data

| **Product Code** | **Diameter x Length** (mm) / (inch) | | **Welding Current** (A) | **Weight** g / 100 pcs |
|---|---|---|---|---|
| 3010101268 | 2.50 x 250 | 3/32 X 10” | 50-90 | 1480 |
| 3010101273 | 3.20 x 350 | 1/8 X 14” | 80-120 | 3470 |
| 3010101278 | 4.00 x 350 | 5/32 X 14” | 110-160 | 5030 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX B 316 L

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 19 12 3 L B 22 |
| EN ISO 3581-A | : E 19 12 3 L B 22 |
| AWS A5.4 | : E 316 L-15 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Ni | Cr |
|---|---|---|---|---|---|
| 0.03 | 0.45 | 1.35 | 2.75 | 11.5 | 18.9 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 360 | 550-700 | min. 55 J | min. 35 |

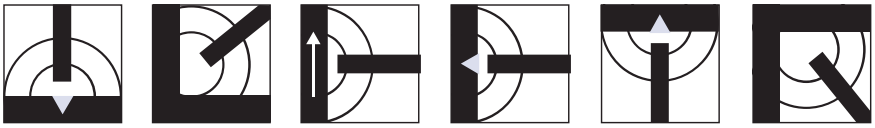
## Typical Base Material Grades

- EN: X10CrNiMoNb 18 12, X2CrNiMo 18 14 3, X5CrNiMo 17 13 3, X2CrNiMo 17 13 2, X2CrNiMoN 17 12 2, X5CrNiMo 17 12 2, X5CrNiMoTi 17 12 2, X6CrNiMoNb 17 12 2, X2CrNiMoN 17 13 3.
- AISI: 316Cb, 316, 316L, 316Ti

## Features and Applications

- Low-carbon alloyed-core wire austenitic electrode with basic coating for use in all industries where analogous steels, including higher carbon grades and ferritic 13% Cr types,are welded. High ductility of weld metal,therefore preferably used for welding of heavy sections.Very good out-of-position weldability. Good low-temperature ductility down to -196°C. Resistance to intergranular corrosion up to 400°C.
- No requirement of preheating ar postweld heat treatement of weld metal

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101283 | 2.50 x 250 | 3/32 x 10” | 60 - 80 | 1440 |
| 3010101288 | 3.20 x 350 | 1/8 x 14” | 80 - 110 | 3480 |
| 3010101293 | 4.00 x 350 | 5/32 x 14” | 110 - 140 | 5080 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX RS 316

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 19 12 2 R 53 |
| EN ISO 3581-A | : E 19 12 2 R 53 |
| AWS A5.4 | : E316-26 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Ni | Cr |
|---|---|---|---|---|---|
| 0.07 | 0.9 | 1.0 | 2.7 | 11.0 | 18.5 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 410 | 640-740 | min. 55 J | min. 30 |

## Typical Base Material Grades

- EN: X5CrNiMo 17 13 3, X10CrNiMo 18 10, X6CrNiMoTi 17 12 2, X5CrNiMo 17 12 2, G-X10CrNiMo 18 10,
- AISI: 316, 316Ti, 317

## Features and Applications

- Used for welding of Cr-Ni-Mo alloyed steels, joint of stainless steel to carbon steels and used for surfacing of stainless steel on carbon steels
- The efficiency of weld metal is approx. 150%
- It is synthetic electrode and is resistant to high current
- Requirement of re-drying for min. 2 hours at the temperatures between 120°C and 200°C

## Welding Positions

## Current Type

D.C.(+) / A.C.

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101298 | 2.50 x 350 | 3/32 x 14” | 90 - 120 | 3310 |
| 3010101303 | 3.20 x 350 | 1/8 x 14” | 110 -160 | 5480 |
| 3010101308 | 4.00 x 350 | 5/32 x 14” | 150 - 190 | 8080 |
| 3010101313 | 5.00 x 350 | 3/16 x 14” | 180 - 220 | 11400 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX R 317 L

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E Z 19 13 4 L R 12 |
| EN ISO 3581-A | : E Z 19 13 4 L R 12 |
| AWS A5.4 | : E317L-16 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Ni | Cr |
|---|---|---|---|---|---|
| <0.04 | 0.8 | 0.9 | 3.2 | 12.5 | 18.7 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 400 | 570-700 | min. 47 J | min. 30 |

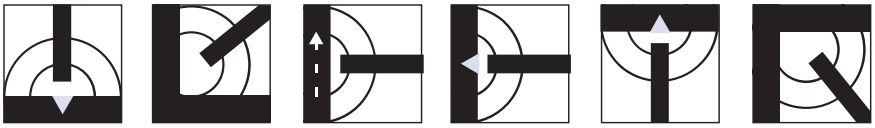
## Typical Base Material Grades

- EN: X2CrNiMoN 17 13 3, X2CrNiMoN 17 13 5, X2CrNiMoN 18 18 3, X2CrNiMoN 18 13, X4CrNiMoN 19 16 5, X4CrNiMoN 22 15, X2CrNiMo 18 14 3, X2CrNiMo 18 16 4, X10CrNiMoTi 18 12
- AISI & UNS: 316L, 316Cb, 317, S31726

## Features and Applications

- Reduces the possibility of intergranular carbide precipitation, providing increase in resistance to intergranular corrosion without use of stabilizers such as Niobium or Titanium
- Rutile-basic coated alloyed-core wire electrode for corrosion-resistant CrNi steels of increased Mo-contents
- Requirement of Re-drying for min. 2 hours at the temperatures between 120°C and 200°C

## Welding Positions



## Current Type

D.C.(+) / A.C.

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101318 | 2.50 x 250 | 3/32 x 10” | 50 - 90 | 1570 |
| 3010101323 | 3.20 x 350 | 1/8 x 14” | 80 - 120 | 3470 |
| 3010101328 | 4.00 x 350 | 5/32 x 14” | 110 - 160 | 5100 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX R 318

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 19 12 3 Nb R 32 |
| EN ISO 3581-A | : E 19 12 3 Nb R 32 |
| AWS A5.4 | : ~E318-16 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Ni | Cr | Nb |
|---|---|---|---|---|---|---|
| 0.04 | 0.8 | 0.8 | 2.8 | 11.0 | 19.4 | + |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 390 | 580-750 | min. 47 J | min. 30 |

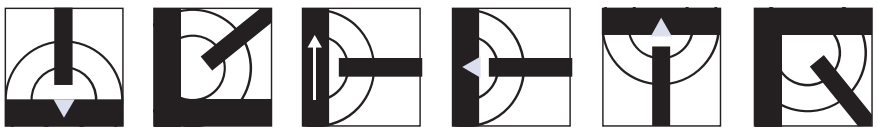
## Typical Base Material Grades

- EN: X6CrNiMoTi 17 12 2, X6CrNiMoNb 1 12 2, X5CrNiMo 17 13 2, G-XCrNiMo 18 10, X10CrNiMoNb 18 12, X5CrNiMo 17 13 3, G-X10CrNiMo 18 10, G-X10CrNiNb 18 10,
- AISI: 316Ti, 316Cb, 316L

## Features and Applications

- Used for the welding of tanks and pipes made of Cr-Ni-Mo-alloyed, stabilized steels which are used in food, chemical textile and paint industries
- The weld metal stabilized by Nb is resistant to temperatures up to +400°C
- Requirement of Re-drying for min. 2 hours at the temperatures between 120°C and 200°C

## Welding Positions



## Current Type

D.C.(+) / A.C.

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101333 | 2.00 x 250 | 5/64 x 10” | 40 - 60 | 930 |
| 3010101338 | 2.50 x 250 | 3/32 x 10” | 50 - 90 | 1540 |
| 3010101343 | 3.20 x 300 | 1/8 x 12 “ | 80 - 120 | 3030 |
| 3010101348 | 3.20 x 350 | 1/8 x 14 “ | 80 - 120 | 3530 |
| 3010101353 | 4.00 x 350 | 5/32 x 14” | 110 - 160 | 5150 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX B 318

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 19 12 3 Nb B 22 |
| EN ISO 3581-A | : E 19 12 3 Nb B 22 |
| AWS A5.4 | : E 318-15 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Ni | Cr | Nb |
|---|---|---|---|---|---|---|
| 0.04 | 0.45 | 1.45 | 2.75 | 11.5 | 20.0 | + |

## Mechanical Properties

| **Yield Strength** ($N/mm^2$) | **Tensile Strength** ($N/mm^2$) | **Impact Strength** (ISO-V/+20°C) | **Elongation** ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 390 | 590-730 | min. 55 J | min. 30 |

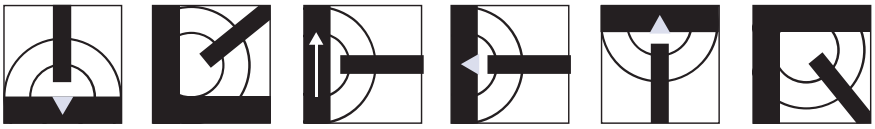
## Typical Base Material Grades

- EN: X6CrNiMoTi 17 12 2, X6CrNiMoNb 1 12 2, X5CrNiMo 17 13 2, G-XCrNiMo 18 10, X10CrNiMoNb 18 12, X5CrNiMo 17 13 3, G-X10CrNiMo 18 10, G-X10CrNiNb 18 10,
- AISI: 316Ti, 316Cb, 316L

## Features and Applications

- Stabilized alloyed-core wire austenitic electrode with basic coating.Intended for use in all industries where analogous steels,including ferritic 13% chromium steels,are welded.Weld metal has high ductility, therefore preferably used for heavy sections.Very good out-of-position weldability.Resistant to intergranular corrosion up to 400°C.The weld metal does not require preheating or postweld heat treatement

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| **Product Code** | **Diameter x Length** (mm) / (inch) | | **Welding Current** (A) | **Weight** g / 100 pcs |
|---|---|---|---|---|
| 3010101358 | 2.50 x 250 | 3/32 x 10” | 60 - 80 | 1450 |
| 3010101363 | 3.20 x 350 | 1/8 x 14” | 80 - 110 | 3500 |
| 3010101368 | 4.00 x 350 | 5/32 x 14” | 110 - 150 | 5300 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX B 327

## Standards

| |
|---|
| TS EN ISO 3581-A : E 25 4 B 22 |
| EN ISO 3581-A : E 25 4 B 22 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr |
|---|---|---|---|---|
| 0.12 | 0.4 | 1.3 | 5.0 | 25.5 |

## Mechanical Properties

| **Yield Strength** ($N/mm^2$) | **Tensile Strength** ($N/mm^2$) | **Impact Strength** (ISO-V/+20°C) | **Elongation** ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 500 | 650-780 | min. 30 J | min. 15 |

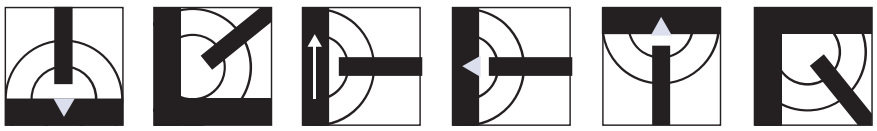
## Typical Base Material Grades

- EN: X20CrNiSi 25 4, G-X40CrNiSi 27 4, X10CrAl7, X10CrAl 13, X10CrAl 18, X10CrAl 24, G-X30CrSi 6, G-X40CrSi 17
- AISI: 327

## Features and Applications

- Used for the fabrication of furnace, boilers, etc. That made of heat resistant steels (CrNi and CrNiAl alloyed steels)
- Far furnace requiring elevated resistance to reducing and oxidizing sulphurous gases as well as for final passes of weld joints in heat-resistant CrSiAl-steels
- Scaling resistance up to 1100°C

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| **Product Code** | **Diameter x Length** (mm) / (inch) | | **Welding Current** (A) | **Weight** g / 100 pcs |
|---|---|---|---|---|
| 3010101373 | 2.50 x 250 | 3/32 x 10” | 50 - 80 | 1560 |
| 3010101378 | 3.20 x 350 | 1/8 x 14” | 80 - 105 | 3270 |
| 3010101383 | 4.00 x 350 | 5/32 x 14” | 100 - 130 | 4940 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX R 347

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 19 9 Nb R 32 |
| EN ISO 3581-A | : E 19 9 Nb R 32 |
| AWS A5.4 | : E 347-16 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr | Nb |
|---|---|---|---|---|---|
| 0.04 | 0.8 | 0.9 | 10.0 | 19.8 | + |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 390 | 570-740 | min. 47 J | min. 35 |

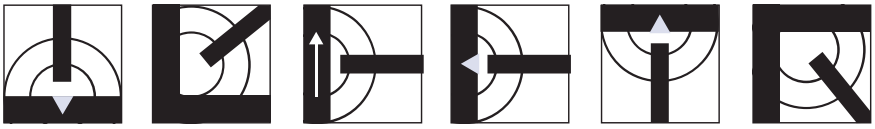
## Typical Base Material Grades

- EN: X6CrNiNb 18 10, X6CrNiTi 18 10, G-X5CrNiNb 18 9, X5CrNi 18 10, X12CrNiTi 18 9, G-X10CrNi 18 8, X10CrNiNb 18 10, X2CrNi 19 11
- AISI: 347, 321, 304, 304LN

## Features and Applications

- Used for the welding of tanks and pipes in which milk and beer is kept
- Also used for the welding of acid, gas, steam and water armatures
- Resistant to acid and corrosion, stabilized by Nb. Weld metal can resist to temperatures up to +400°C
- Requirement of Re-drying for min. 2 hours at the temperatures between 120°C and 200°C

## Welding Positions



## Current Type

D.C. (+) / A.C.

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101388 | 2.00 x 250 | 5/64 x 10” | 40 - 60 | 940 |
| 3010101393 | 2.50 x 250 | 3/32 x 10” | 50 - 90 | 1500 |
| 3010101398 | 3.20 x 300 | 1/8 x 12” | 80 - 120 | 2980 |
| 3010101403 | 3.20 x 350 | 1/8 x 14” | 80 - 120 | 3470 |
| 3010101408 | 4.00 x 350 | 5/32 x 14” | 110 - 160 | 5150 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX B 347

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 19 9 Nb B 22 |
| EN ISO 3581-A | : E 19 9 Nb B 22 |
| AWS A5.4 | : E 347-15 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Ni | Cr | Nb |
|---|---|---|---|---|---|
| 0.04 | 0.45 | 1.4 | 10.2 | 19.8 | 0.4 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 400 | 600-740 | min. 55 J | min. 30 |

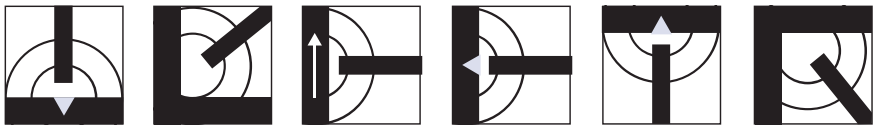
## Typical Base Material Grades

- EN & DIN: X6CrNiNb 18 10, X6CrNiTi 18 10, X5CrNi 18 10, X5CrNi 18 10, X2CrNiN 18 10, X2CrNi 19 11, G-X5CrNiNb 19 10, G-X10CrNi 18 8,
- AISI: 347, 321, 304, 304LN, 302, ASTM; A296 Gr.CF8C, A157 Gr C9, A320 Gr B 8C & D

## Features and Applications

- Stabilized alloyed-core wire austenitic electrode with basic coating for use in all industries where similar steel types as well as ferritic 13% chromium steels are welded
- High ductility of the weld metal, therefore preferable for welding heavy sections
- Very good out-of-position weldability Good low-temperature-ductility down to -196°C
- Resistant to intergranular corrosion up to 400°C
- Weld metal does not require preheating or postweld heat treatment

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101413 | 2.50 x 250 | 3/32 x 10” | 60-80 | 1460 |
| 3010101418 | 3.20 x 350 | 1/8 x 14” | 80-120 | 3250 |
| 3010101423 | 4.00 x 350 | 5/32 x 14” | 100-150 | 5100 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX R 385

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 20 25 5 Cu N L R 32 |
| EN ISO 3581-A | : E 20 25 5 Cu N L R 32 |
| AWS A5.4 | : E 385 -16 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Ni | Cr | Cu |
|---|---|---|---|---|---|---|
| <0.03 | 0.75 | 1.0 | 4.5 | 25.0 | 20.0 | 1.5 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 400 | 550-700 | min. 47 J | min. 30 |

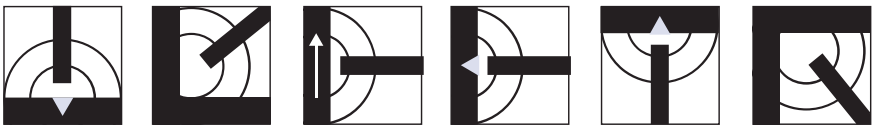
## Typical Base Material Grades

- EN & DIN: X5NiCrMoCuNb 20 18, X5NiCrMoCuTi 20 18, X2NiCrMoCu 25 20 5, X5NiCrMoCuNb 22 18, G-X7CrNiMoCuNb 18 18, G-X7NiCrMoCuNb 25 20
- AISI: 317L, 904L

## Features and Applications

- Resistant to intercıystalline corrosion / wet corrosion up to 350°C
- High corrosion resistance similar to that of matching steels / cast steel grades, above all in reducing environments
- For joining and surfacing work on matching austenitic CrNiMoCu steels/cast steel grades
- For joining these types of steels with unalloyed / low alloy steels / cast steel grades
- Re-drying: 120°C - 200°C / min. 2h

## Welding Positions



## Current Type

D.C.(+) / A.C.

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101428 | 2.50 x 250 | 3/32 x 10” | 50 - 90 | 1570 |
| 3010101433 | 3.20 x 350 | 1/8 x 14” | 80 - 120 | 3470 |
| 3010101438 | 4.00 x 350 | 5/32 x 14” | 110 -160 | 5200 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX B 385

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | :E Z 20 25 5 Cu N L B 22 |
| EN ISO 3581-A | : E Z 20 25 5 Cu N L B 22 |
| AWS A5.4 | : E 385 -15 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Ni | Cr | Cu | Nb |
|---|---|---|---|---|---|---|---|
| <0.025 | 0.40 | 2.2 | 3.5 | 25.0 | 22.0 | 2.2 | 0.35 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 380 | 600-700 | 80 J | min. 35 |

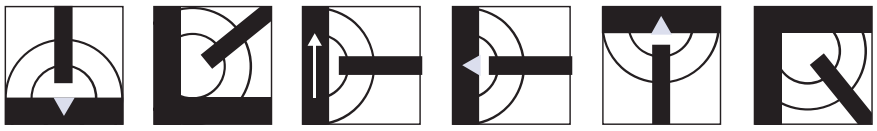
## Typical Base Material Grades

- EN & DIN: X5NiCrMoCuNb 20 18, X5NiCrMoCuTi 20 18, X2NiCrMoCu 25 20 5, X5NiCrMoCuNb 22 18, G-X7CrNiMoCuNb 18 18, G-X7NiCrMoCuNb 25 20
- AISI: 307, 307L, 904L

## Features and Applications

- Basic coated alloyed-core wire special electrode for corrosion - resistant high-Molybdenum CrNi steels
- Recomended for highly corrosive environments
- Apart from its markedly good chemical resistarıce to stress corrosion cracking and crevice corrosion,the weld metal leatures high resistance to pitting
- Particularly recomended for steels containing up to 5% molybdenum

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101443 | 2.50 x 250 | 3/32 x 10” | 50 - 90 | 1573 |
| 3010101448 | 3.20 x 350 | 1/8 x 14” | 80 - 120 | 3563 |
| 3010101453 | 4.00 x 350 | 5/32 x 14” | 110 -150 | 4570 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX B 410

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 13 B 22 |
| EN ISO 3581-A | : E 13 B 22 |
| AWS A5.4 | : E 410-15 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Cr |
|---|---|---|---|
| 0.07 | 0.7 | 0.8 | 13.5 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Hardness (HB) | |
|---|---|---|---|---|
| | | | as welded | 750°C/2h/furnace |
| min. 450 | 650-800 | min. 15 J | ~350 | 200 |

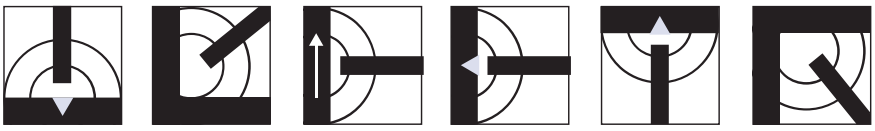
## Typical Base Material Grades

- X6Cr 13, X6CrAl 13, X15Cr 13, X10Cr 13, G-X10Cr 13

## Features and Applications

- 13% Cr used in the joining and surfacing welding of martensitic and martensitic-ferritic steels with 13% Cr and steel casts.( This electrode is also strong at filling in the surfaces of gas, water and steam armatures)
- Annealing at 750°C for 2 hours, cooling down to room temperature in the furnace
- Re-drying: 300°C - 350°C / min. 2h

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101458 | 2.50 x 250 | 3/32 x 10” | 50 - 90 | 1500 |
| 3010101463 | 3.20 x 350 | 1/8 x 14” | 80 - 120 | 3140 |
| 3010101468 | 4.00 x 350 | 5/32 x 14” | 110 -160 | 4690 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX B 410 Ni Mo

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 13 4 B 42 |
| EN ISO 3581-A | : E 13 4 B 42 |
| AWS A5.4 | : E 410 NiMo-15 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Ni | Cr |
|---|---|---|---|---|---|
| 0.04 | 0.2 | 0.45 | 0.5 | 4.2 | 12.3 |

## Mechanical Properties

| **Yield Strength** ($N/mm^2$) | **Tensile Strength** ($N/mm^2$) | **Impact Strength** (ISO-V/+20°C) | **Elongation** ($L_0=5d_0$) (%)) | **Hardness (HB)** |
|---|---|---|---|---|
| min. 500 | min. 760 | min. 47 J | min. 15 | ~360 |

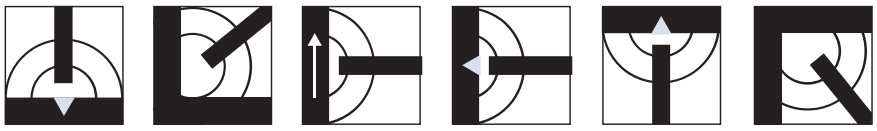
## Typical Base Material Grades

- X5CrNi 13 4, G-X5CrNi 13 4, X6Cr13, G-X5CrNi 13 6

## Features and Applications

- Electrode with rutile coating on alloyed core-wire
- Applicability in welding Cr-Ni -alloyed austenitic high-temperature steels
- Usability in welding at all positions except for vertical downward position
- Applicability in joint-welding and surfacing of heat-resisting similar-type steels and steel castings.
- Serviceability at temperatures of values up to 700 °C
- Resistance to fracture and corrosion
- Creep resistance at high temperatures being higher than that of the electrode ELOX R 308 L
- Re-drying: 300° - 350°C / min. 2 h

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| **Product Code** | **Diameter x Length** (mm) / (inch) | | **Welding Current** (A) | **Weight** g / 100 pcs |
|---|---|---|---|---|
| 3010101473 | 2.50 x 250 | 3/32 x 10” | 50 - 90 | 1500 |
| 3010101478 | 3.20 x 350 | 1/8 x 14” | 90 - 110 | 3260 |
| 3010101483 | 4.00 x 350 | 5/32 x 14” | 110 - 160 | 4930 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX BS 410 Ni Mo

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 13 4 B 62 |
| EN ISO 3581-A | : E 13 4 B 62 |
| AWS A5.4 | : E 410NiMo-25 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Ni | Cr |
|---|---|---|---|---|---|
| 0.05 | 0.3 | 0.5 | 0.5 | 4.5 | 11.5 |

## Mechanical Properties

| **Yield Strength** ($N/mm^2$) | **Tensile Strength** ($N/mm^2$) | **Impact Strength** (ISO-V/+20°C) | **Elongation** ($L_0=5d_0$) (%)) | **Hardness (HB)** |
|---|---|---|---|---|
| min. 600 | 800-980 | min. 47 J | min. 15 | ~270 |

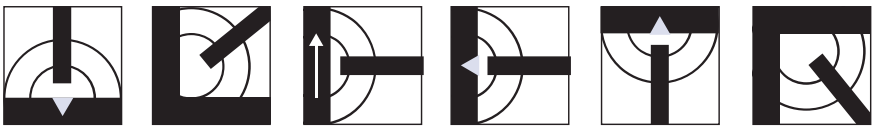
## Typical Base Material Grades

- X5CrNi 13 4, G-X5CrNi 13 4, X6Cr 13, G-X5CrNi 13 6

## Features and Applications

- Basic coated electrode for welding similar corrosion-resistant, martensitic and martensitic-ferritic rolled, forged and cast steels
- Used in the construction of hydroturbines, compressors and steam power plants
- Resistant to corrosion caused by water, steam and sea water atmosphere
- Excellent slag removability and smooth bead appearance
- Metal recovery approx. 130% Out-of-position weldability
- Preheating and interpass temperatures of thick-walled components 100°C-160°C
- Tempering temperature 580°C-620°C
- Re-drying: 300°C - 350°C / min. 2 h

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| **Product Code** | **Diameter x Length** (mm) / (inch) | | **Welding Current** (A) | **Weight** g / 100 pcs |
|---|---|---|---|---|
| 3010101488 | 2.50 x 350 | 3/32 x 14” | 70 - 110 | 1960 |
| 3010101493 | 3.20 x 350 | 1/8 x 14” | 110 - 150 | 3630 |
| 3010101498 | 4.00 x 350 | 5/32 x 14” | 150 - 190 | 5550 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX B 430

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 17 B 22 |
| EN ISO 3581-A | : E 17 B 22 |
| AWS A5.4 | : E 430 - 15 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Cr |
|---|---|---|---|
| 0.08 | 0.5 | 0.4 | 17.0 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Elongation ($L_0=5d_0$) (%)) | Hardness (HB) | |
|---|---|---|---|---|
| | | | as welded | 750°C/2h/furnace |
| min. 350 | 540-660 | min. 20 | ~270 | ~200 |

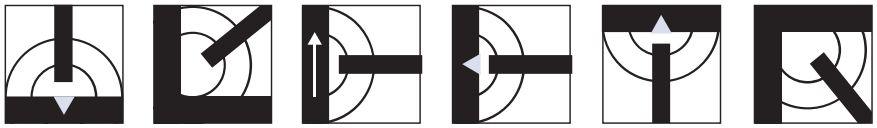
## Typical Base Material Grades

- X6CrTi 17, X20CrNi17-2, 431,430 Ti

## Features and Applications

- Mainly used for corrosion-resistant, wear-resistant surtacing applications
- Preferably for surfacing on sealing faces of gas, water and steam valves
- Scaling resistance up to 900°C
- Weld metal protector hardness up to 500°C

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101503 | 2.50 x 250 | 3/32 x 10” | 50 - 90 | 1400 |
| 3010101508 | 3.20 x 350 | 1/8 x 14” | 80 - 120 | 3000 |
| 3010101513 | 4.00 x 350 | 5/32 x 14” | 110 - 160 | 4600 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX B 430 Mo

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E Z 17 Mo B 22 |
| EN ISO 3581-A | : E Z 17 Mo B 22 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Cr |
|---|---|---|---|---|
| 0.2 | 0.5 | 0.5 | 1.2 | 17.0 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Elongation ($L_0=5d_0$) (%)) | Hardness (HB) | |
|---|---|---|---|---|
| | | | as welded | 750°C/2h/furnace |
| min. 490 | 650-750 | min. 15 | ~400 | ~250 |

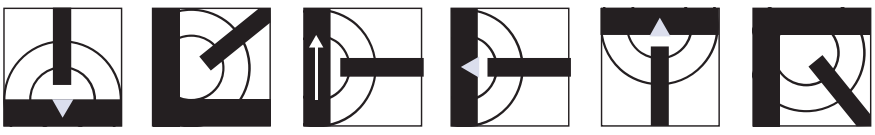
## Typical Base Material Grades

- GS-C 25, X22CrNi 17, 41Cr4

## Features and Applications

- Basic coated alloyed core wire electrode with good weldability in all positions except vertical-down
- Mainly used for hard surfacing, corrison resistant, wear resistant
- Preferably employed for sealing faces of gas, water and steam valves
- In the machined condition, at least a two-layer buildup should remain on the surface
- The weld metal features retention of hardness up to 500°C
- Sea water resistant, scalling resistant up to 900°C
- Preheating as required by the base metal, with temperatures between 100°C and 200°C being generally sufficient (for joining operations 250°- 400°C)
- Annealing at 650°C - 750°C may be carried out to improve the toughness values in the weld metal and in the transition zone

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101518 | 2.50 x 250 | 3/32 x 10” | 50 - 90 | 1650 |
| 3010101523 | 3.20 x 350 | 1/8 x 14” | 80 - 120 | 3030 |
| 3010101528 | 4.00 x 350 | 5/32 x 14” | 110 - 160 | 4630 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX R 2209

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 22 9 3 N L R 32 |
| EN ISO 3581-A | : E 22 9 3 N L R 32 |
| AWS A5.4 | : E 2209 - 17 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Ni | Cr | N |
|---|---|---|---|---|---|---|
| 0.03 | 0.5 | 0.9 | 2.7 | 10.0 | 22.0 | 0.12 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 520 | 690-850 | min. 47 J | min. 20 |

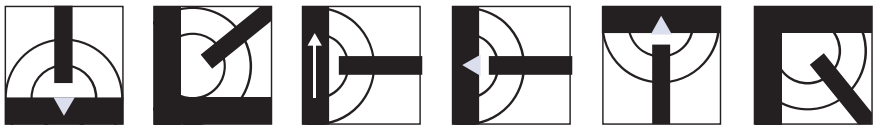
## Typical Base Material Grades

- X2CrNiMoN22-5-3, X2CrNiMoN23-4, X2CrNiMoN22-5-3 with X2CrNiMoNb18-12, X2CrNiMoN22-5-3 with P235GH/ P265GH, S255N, P295GH, S355N, 16Mo3

## Features and Applications

- Applicability in welding dublex steels
- Suitability to joint- and suriacing applications of similar-type austenitic steels and cast steels
- Electrode coating of rutile character
- Excellent weldability
- Very high resistance to stress corrosion cracking and to corrosion at particularly chlorious and sulphuruous media
- In the liquid conditions at chemical industry, serviceability at temperatures of values up to 280°C
- Re-drying: 250°C - 300°C / min. 2h

## Welding Positions



## Current Type

D.C.(+) / A.C.

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101533 | 2.50 x 250 | 3/32 x 10” | 50 - 90 | 1410 |
| 3010101538 | 3.20 x 350 | 1/8 x 14” | 80 - 120 | 3540 |
| 3010101543 | 4.00 x 350 | 5/32 x 14” | 110 - 160 | 5200 |

**Approvals:** TSE, CE, ABS, BV, Class NK, SEPRO, RINA

Stainless Steel Electrode

# ELOX B 2209

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 22 9 3 N L B 22 |
| EN ISO 3581-A | : E 22 9 3 N L B 22 |
| AWS A5.4 | : E 2209-15 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Ni | Cr | N |
|---|---|---|---|---|---|---|
| 0.03 | 0.4 | 1.3 | 2.6 | 9.0 | 22.0 | 0.14 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Impact Strength (ISO-V/-60°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|---|
| min. 520 | 690-850 | min. 80 J | min. 40 J | min. 30 |

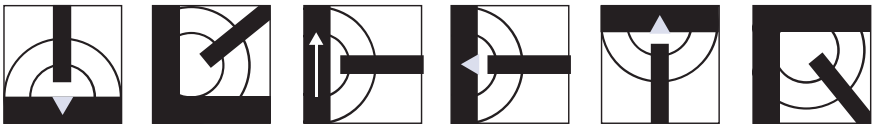
## Typical Base Material Grades

- X2CrNiMoN22-5-3, X2CrNiMoN23-4, X2CrNiMoN22-5-3 with X2CrNiMoNb18-1, X2CrNiMoN22-5-3 with P235GH/ P265GH, S255N, P295GH, S355N, 16Mo3

## Features and Applications

- Applicability in welding dublex steels
- Suitability to joint- and surfacing applications of similar-type austenitic steels and cast steels.
- Electrode coating of basic character
- Excellent weldability
- Very high resistance to stress corrosion cracking and to corrosion at particularly chlorious and sulphuruous media
- In the liquid conditions at chemical industry, serviceability at temperatures of values up to 280°C
- Re-drying: 250°C - 300°C / min. 2h

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101548 | 2.50 x 250 | 3/32 x 10” | 60-80 | 1550 |
| 3010101558 | 3.20 x 300 | 1/8 x 12” | 80-110 | 2850 |
| 3010101568 | 4.00 x 350 | 5/32 x 14” | 110-140 | 5140 |

**Approvals:** TSE, CE, SEPRO

Stainless Steel Electrode

# ELOX B 2594

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E 25 9 4 N L B 42 |
| EN ISO 3581-A | : E 25 9 4 N L B 42 |
| AWS A5.4 | : E 2594 - 15 |

## Chemical Composition of Weld Metal % (Typical)

| C | Si | Mn | Mo | Ni | Cr | N |
|---|---|---|---|---|---|---|
| 0.035 | 0.35 | 1.45 | 3.8 | 8.6 | 24.0 | 0.25 |

## Mechanical Properties

| Yield Strength ($N/mm^2$) | Tensile Strength ($N/mm^2$) | Impact Strength (ISO-V/+20°C) | Elongation ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 550 | min. 760 | min. 47 J | min. 18 |

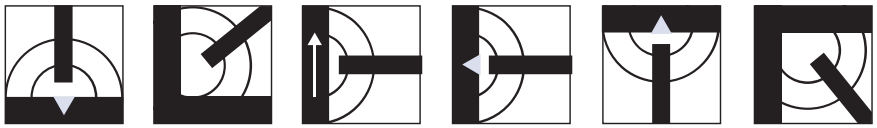
## Typical Base Material Grades

- 1.4410, X2CrNiMoN 25-7-4, 1.4501, X2CrNiMoCuWN 25-7-4, 1.4507, X2CrNiMoCuN 25-6-3
- UNS S32750, S32760, S32550

## Features and Applications

- Basic type electrode which used especially for the welding of duplex steels. It provides high yield and tensile strength and the weld metal is resistant to pitting corrosion
- Re-drying: 250°C - 300°C / min. 2h

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| Product Code | Diameter x Length (mm) / (inch) | | Welding Current (A) | Weight g / 100 pcs |
|---|---|---|---|---|
| 3010101573 | 2.50 x 250 | 3/32 x 10” | 60 - 80 | 1470 |
| 3010101578 | 3.20 x 300 | 1/8 x 12” | 80 - 120 | 2870 |

**Approvals:** CE, SEPRO

Stainless Steel Electrode

# ELOX B 16-8-2

## Standards

| | |
|---|---|
| TS EN ISO 3581-A | : E Z 16 8 2 B 22 |
| EN ISO 3581-A | : E Z 16 8 2 B 22 |
| AWS A5.4 | : E 16 8 2-15 |

## Chemical Composition of Weld Metal % (Typical)

| C | Cr | Ni | Mo |
|---|---|---|---|
| 0.05 | 16.0 | 8.5 | 1.3 |

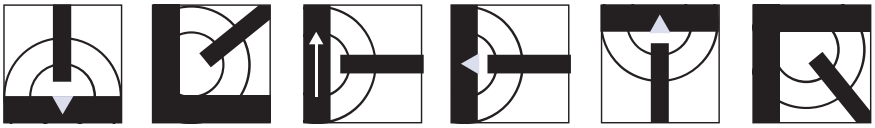
## Mechanical Properties

| **Yield Strength** ($N/mm^2$) | **Tensile Strength** ($N/mm^2$) | **Impact Strength** (ISO-V/+20°C) | **Elongation** ($L_0=5d_0$) (%)) |
|---|---|---|---|
| min. 410 | min. 550 | min. 47 J | min. 35 |

## Features and Applications

- Basic coated electrode is used primarily for welding stainless steel, such as types 16-8-2, 316, and 347, for high pressure, high-temperature piping systems
- A controlled chemical composition and ferrite number (<5 FN) of weld metal gives good creep, oxidation and general corrosion resistance

## Welding Positions



## Current Type

D.C.(+)

## Operating Data

| **Product Code** | **Diameter x Length** (mm) / (inch) | | **Welding Current** (A) | **Weight** g / 100 pcs |
|---|---|---|---|---|
| 3010101618 | 3.20 x 350 | 1/8 x 14” | 100 - 130 | 3200 |

**Approvals:** CE, SEPRO

По вопросам продаж и поддержки обращайтесь:

Алматы (727)345-47-04
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35
Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

**Россия** +7(495)268-04-70
**Казахстан** +(727)345-47-04
**Беларусь** +(375)257-127-884
**Узбекистан** +998(71)205-18-59
**Киргизия** +996(312)96-26-47

эл.почта: gak@nt-rt.ru || сайт: https://geka.nt-rt.ru